

August 31, 2004



Acquisition

Acquisition of the EA-6B Improved Capability III Program (D-2004-113)

Department of Defense
Office of the Inspector General

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Acronyms

COMOPTEVFOR	Commander, Operational Test and Evaluation Force
DITSCAP	Department of Defense Information Technology Security Certification and Accreditation Process
GAO	General Accountability Office
IATO	Interim Authority to Operate
ICAP	Improved Capability
OA	Operational Assessment



INSPECTOR GENERAL
DEPARTMENT OF DEFENSE
400 ARMY NAVY DRIVE
ARLINGTON, VIRGINIA 22202-4704

August 31, 2004

MEMORANDUM FOR NAVAL INSPECTOR GENERAL

SUBJECT: Report on Acquisition of the EA-6B Improved Capability III Program
(Report No. D-2004-113)


We are providing this report for review and comment. We considered management comments on a draft of this report in preparing the final report.

DoD Directive 7650.3 requires that all recommendations be resolved promptly. In response to the final report, we request that the Deputy Assistant Secretary of the Navy (Air Programs), Office of the Assistant Secretary of the Navy (Research, Development and Acquisition) reconsider his position on Recommendations C.1. and C.2. and provide additional comments by September 30, 2004.

If possible, please send management comments in electronic format (Adobe Acrobat file only) to Audam@dodig.osd.mil. Copies of the management comments must contain the actual signature of the authorizing official. We cannot accept the / Signed / symbol in place of the actual signature. If you arrange to send classified comments electronically, they must be sent over the SECRET Internet Protocol Router Network (SIPRNET).

We appreciate the courtesies extended to the staff. Questions should be directed to Mr. Rodney D. Britt at (703) 604-9096 (DSN 664-9096) or Ms. Melinda M. Oleksa at (703) 604-9093 (DSN 664-9093). The team members are listed inside the back cover. See Appendix G for the report distribution.

By direction of the Deputy Inspector General for Auditing:


Mary L. Ugone
Assistant Inspector General
for Acquisition Management

Office of the Inspector General of the Department of Defense

Report No. D-2004-113
(Project No. D2003AE-0190)

August 31, 2004

Acquisition of the EA-6B Improved Capability III Program

Executive Summary

Who Should Read This Report and Why? Civil service and military managers involved in the management, support, and oversight of the EA-6B Improved Capability (ICAP) III Program should read this report because it discusses acquisition issues that must be addressed before the EA-6B ICAP III Program progresses further through the acquisition process.

Background. The Services use the airborne electronic attack capability to suppress and degrade an opposing force's air defense and communication systems with airborne electronic jamming before offensive airborne strikes. The Navy's EA-6B Prowler (EA-6B) is the only DoD platform that provides the Services with an airborne electronic attack capability and must be able to suppress and degrade current and future threats through 2015. The EA-6B ICAP III Program will provide the EA-6B aircraft with upgraded selective-reactive jamming and threat emitter geo-location capabilities. In June 2003, the Assistant Secretary of the Navy (Research, Development, and Acquisition) approved the program for low-rate initial production. The Program Manager for the EA-6B (the Program Manager) subsequently awarded the prime contractor, Northrop Grumman Integrated Systems, Bethpage, New York, a firm-fixed-price modification to the development contract for low-rate initial production of 10 ICAP III system kits for \$102 million. The Navy plans to acquire 35 ICAP III system kits for installation on 35 EA-6B aircraft. As of June 2004, the ICAP III Program costs consisted of an estimated \$335 million in research, development, test and evaluation funds, \$458 million in procurement funds, and \$109 million in operations and support funds for a total program cost of \$902 million.

Results. The Program Manager provided the Assistant Secretary of the Navy (Research, Development, and Acquisition) with incomplete information on the operational assessment that the Commander, Operational Test and Evaluation Force prepared in support of the ICAP III Program low-rate initial production decision. Further, the Designated Approving Authority for the Naval Air Systems Command issued an Interim Authority to Operate that was needed to begin the operational test phase of the ICAP III information system before the information system security requirements were complete. Finally, the Program Manager did not require the subcontractor, through the prime contractor, for the ICAP III Tactical Jamming System Receiver to submit updated reliability prediction data needed to determine the best support strategy for the receiver system. As a result, the Assistant Secretary of the Navy (Research, Development, and Acquisition) approved the program for low-rate initial production, increasing the risk that costly retrofit expenses will occur to correct the design deficiencies for the low-rate initial production systems and incurring higher than expected sustainment costs for the receiver when the ICAP III Program becomes operational. Ensuring the resolution of the critical operational issues and identifying fixes for the additional deficiencies identified in the operational assessment will increase the likelihood that the ICAP III system will

perform satisfactorily and enable the milestone decision authority to make a fully informed full-rate production decision. Completing required elements of the Department of Defense Information Technology Security Certification and Accreditation Process before issuing authority to operate will provide assurance to decision makers that the ICAP III information system will meet information assurance requirements. Performing analysis and corrective action on the ICAP III hardware failures will enable the Program Manager to determine the most effective method for meeting future ICAP III sustainment needs. See the Findings section of the report for detailed recommendations.

The Program Manager's execution of the management control program was generally adequate. However, he should include a review of test and evaluation results, information assurance, and system reliability failure reviews in his self-assessments.

Management Comments. We received comments from the Deputy Assistant Secretary of the Navy (Air Programs), who responded for the Assistant Secretary of the Navy (Research, Development, and Acquisition); the Commander, Naval Air Systems Command; and the Program Manager for the EA-6B. Although the Deputy Assistant Secretary nonconcurred with the finding on the readiness of the EA-6B ICAP III for low-rate initial production, he stated that the Commander, Operational Test and Evaluation Force would determine whether the 22 critical operational issues were satisfactorily resolved as part of the dedicated operational test and evaluation. The Deputy Assistant Secretary also stated that the Assistant Secretary of the Navy (Research, Development, and Acquisition) had established the criteria to demonstrate that the EA-6B Improved Capability III Program was operationally effective and suitable before approval for full-rate production. Also, the Deputy Assistant Secretary agreed that the Naval Air Systems Command would implement recommended actions to complete required elements of the Defense Information Technology Security Certification and Accreditation Process to ensure that the EA-6B ICAP III meets information assurance requirements. Further, the Deputy Assistant Secretary stated that the Naval Inventory Control Point would revise the reliability predictions for the Tactical Jamming System Receiver, using reliability data from the dedicated technical and operational tests, to determine the most effective method for meeting ICAP III sustainment needs. The Deputy Assistant Secretary did not agree that the subcontractor for the Tactical Jamming System Receiver needed to cross-reference actions taken to close each failure identified in the subcontractor's failure logbook or obtain, through the prime contractor, an updated failure modes and effects and critical analysis document required by the Systems Engineering Management Plan. See the Findings section of the report for a discussion of management comments and the Management Comments section of the report for the complete text of the comments.

Audit Response. In response to the final report, we request that the Deputy Assistant Secretary of the Navy (Air Programs) reconsider his position on requiring that the subcontractor for the Tactical Jamming System Receiver document, through the prime contractor, the failure logbook as required and update the failure modes and effects and critical analysis document. We request that the Deputy Assistant Secretary provide the additional comments by September 30, 2004.

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Background

The Services use the Navy's airborne electronic attack capability to suppress and degrade an opposing force's air defense and communication systems with airborne electronic jamming before offensive airborne strikes. The Navy defines an airborne electronic attack as a radio frequency system, hosted on an airborne platform, which limits the attack of air breathing (non-space) free flight vehicles. The Navy's EA-6B Prowler (EA-6B) is the only DoD platform that provides the Services with an airborne electronic attack capability and must be able to suppress and degrade current and future threats through 2015. The EA-6B aircraft became the only DoD tactical jamming aircraft when the Air Force terminated the EF-111 Program in 1995. Accordingly, the Navy EA-6B aircraft is now considered a national asset.

Airborne Electronic Attack Requirements. The Navy operates 19 EA-6B squadrons; 11 are carrier-based squadrons, 4 are joint Air Force and Navy expeditionary squadrons, and 4 are Marines Corps expeditionary squadrons.¹ The Navy and Air Force have shared the 4 expeditionary squadrons since the Air Force terminated the EF-111 Program. As of June 2004, the Navy has 119 EA-6B aircraft, of which 48 are in repair, 30 are assigned to Navy aircraft carrier squadrons, 9 are assigned to Navy expeditionary squadrons, 15 are assigned to Marine Corps expeditionary squadrons, 13 are assigned for fleet replacement², and 4 are assigned for reserve training and testing. In 2015, the Navy plans to retire the EA-6B aircraft and discontinue the expeditionary squadrons after it acquires 90 EA-18G replacement aircraft to support its carrier-based squadrons. As programmed, the Navy will not support requirements for future airborne electronic attack missions of the Air Force and Marine Corps.

EA-6B Program. The first EA-6B production aircraft was introduced in 1971, and the last Prowler was delivered in 1991. Since 1971, the Navy upgraded the EA-6B with the Expanded Capability, the Improved Capability (ICAP) I and II, and made Block 82, 86, 89, and 89A configuration upgrades. The ICAP III, the Multifunctional Information Distribution System Link-16 network, and the Joint Mission Planning System programs are the next planned major modifications to the EA-6B aircraft.

ICAP III Program. The ICAP III Program, an Acquisition Category II program, will upgrade the software and hardware in the EA-6B aircraft to provide a selective-reactive jamming capability in a wider frequency range and a threat emitter geo-location capability. The ICAP III Program includes the design, development, and testing of a new upgraded tactical jamming subsystem, a tactical information subsystem, and a tactical display subsystem. The EA-6B aircraft's performance will be improved when the existing aircraft's surveillance receiver, display and loader, and recorder subsystems are replaced with more reliable and accurate subsystems. See Appendix C for a full description of the ICAP III Program subsystems that will upgrade the EA-6B aircraft.

¹An expeditionary squadron is an armed force organized to accomplish a specific objective in a foreign country.

²Fleet Replacement is Navy squadron that trains pilots to operate EA-6B aircraft.

In March 1998, the Navy competitively awarded a cost-plus-award-fee contract to Northrop Grumman Integrated Systems, Bethpage, New York, for the development of the ICAP III. As of June 2004, the development contract price was \$235 million. In June 2003, the Program Manager awarded Northrop Grumman a firm-fixed-price modification to the development contract for low-rate initial production of 10 ICAP III system kits for \$102 million. The Navy plans to acquire 35 ICAP III kits to integrate into 35 EA-6B aircraft at an estimated cost of \$335 million for research, development, test and evaluation funds; \$458 million for procurement funds; and \$109 million in operations and support funds for a total program cost of \$902 million.

Test asset unavailability and hardware and software problems caused the ICAP III Program to experience significant schedule delays and breach schedule parameters in the acquisition program baseline agreement, which was approved in October 2003. In April 2004, the Commander, Operational Test and Evaluation Force (COMOPTEVFOR) approved the ICAP III Program to start operational testing. Because of the schedule delays, however, the Program Manager was unable to obligate and expend the ICAP III procurement funds budgeted for FY 2004. In June 2004, the Program Manager was revising the agreement to reflect a more realistic program schedule for the full-rate production decision. Accordingly, the Assistant Secretary of the Navy (Research, Development, and Acquisition) had not yet approved a revised schedule for integrating the ICAP III into the initial EA-6B aircraft.

Within the Naval Air Systems Command, the Program Management Activity-234, under the supervision of the Navy Program Executive Officer for Tactical Aircraft Programs, manages the ICAP III and the other EA-6B aircraft upgrade programs. The Assistant Secretary of the Navy (Research, Development, and Acquisition) is the milestone decision authority for all EA-6B aircraft Acquisition Category II upgrades, including the ICAP III Program.

Objective

The audit objective was to evaluate the overall acquisition management of the EA-6B ICAP III Program. Specifically, we evaluated whether management was cost-effectively readying the program for the production phase of the acquisition process. We also evaluated the management control program as it related to the audit objective. See Appendix A for a discussion of the scope and methodology of the review, the review of the management control program, and prior coverage related to the audit objective.

A. Readiness for Low-Rate Initial Production

The Program Manager provided the Assistant Secretary of the Navy (Research, Development, and Acquisition) with incomplete information on the operational assessment of the ICAP III Program that the Commander, Operational Test and Evaluation Force (COMOPTEVFOR) prepared in support of the low-rate initial production decision. Specifically, the Program Manager did not provide the details for the following operational test results:

- The high false emitter display ratio³ substantially reduced overall mission effectiveness by overloading the aircrew's displays with erroneous symbols and caused significant problems in the proper use of reactive assignments.
- The lack of a fully functional keypad prevented the test aircrew from using the ICAP III weapon system effectively.
- The Tactical EA-6B Mission Planning System erroneously displayed data (lost or frozen data) because of frequent system lockups, which presented major obstacles to effective pre-flight mission planning and post-flight analysis.
- Fifty additional performance deficiencies for the ICAP III systems required correction because they detracted from the overall EA-6B efficiency or operator situational awareness.

The Program Manager did not provide the COMOPTEVFOR operational assessment to the Assistant Secretary of the Navy (Research, Development, and Acquisition) as required for Navy program milestone decision meetings because the Program Manager limited his presentation of the COMOPTEVFOR test results to their conclusion that the ICAP III was potentially operationally effective and suitable, the ratings for the critical operational issues, and a listing of the 50 additional deficiencies. The briefing did not describe how the deficiencies affected operational effectiveness and suitability. As a result, the Assistant Secretary of the Navy (Research, Development, and Acquisition) approved the Program Manager's request in June 2003 to procure 10 ICAP III systems for low-rate initial production, and the Navy increased the risk that it will incur costly retrofit expenses to correct the design deficiencies for those systems at the completion of the dedicated operational test and evaluation phase.

³The percentage of threat emitter symbols displayed to the operators that were not a threat signal of interest.

Operational Assessment

To assess the ICAP III system, the COMOPTEVFOR tested two modified EA-6B aircraft for a total of 12 test missions and 4 unit-level training flights. In the operational assessment, the COMOPTEVFOR reported that the ICAP III met or exceeded all performance threshold values with the exception of system reliability. For the 22 critical operational test issues, the COMOPTEVFOR rated 3 issues as high risk and another 9 issues as moderate risk on achieving program performance requirements. In summary, the COMOPTEVFOR stated that the demonstrated capability of the ICAP III equaled or exceeded the performance level of the preceding ICAP II system and that the overall ICAP III system performance was low risk. The COMOPTEVFOR recommended that the specific performance deficiencies identified in the operational assessment be corrected before the start of the dedicated operational test phase. The table lists the critical operational effectiveness and suitability issues and the corresponding level of risk that the COMOPTEVFOR assigned.

Critical Operational Issue Ratings Unclassified

<u>Critical Issues- Effectiveness</u>	<u>Risk Rating¹</u>
Detection	Red
Jammer Assignment	Yellow
Identification	Yellow
Geo-Location	Yellow
Crew Vehicle	
Aircrew Factors	Red
Integration of USQ-113 and MATT IDM ²	White
Overall System Performance	Green
Targeting	
High Speed Antiradiation Missile	White
Jammer Steering	Green
Tactics	Green
Survivability	Green
Joint Interoperability	White
Mission Planning and Analysis	Red
System Reprogramability	Yellow

Critical Issues –Suitability

Reliability	Yellow
Maintainability	Yellow
Availability	Green
Logistic supportability	White
Compatibility	Green
Interoperability	White
Training	Green
Human factors	Yellow
Safety	Yellow
Documentation	Yellow

¹Red = high risk; yellow = medium risk = white risk; green = low risk; white = not evaluated.

²Multimission Advanced Tactical Terminal Improved Data Modem.

Policy for Low-Rate Initial Production Decision

DoD established policy for translating mission needs and technology opportunities that are based on approved mission need statements and requirements documents into stable, affordable, and well-managed acquisition programs. This transition process involves two decision points: approval to enter into low-rate initial production and approval to enter into full-rate production. The low-rate initial production decision is critical because it starts the contractor's production line. DoD Instruction 5000.2, "Operation of the Defense Acquisition System," May 12, 2003, establishes mandatory procedures for testing all DoD acquisition programs before production decision points. DoD Manual 4245.7-M, "Transition from Development to Production," September 1985, provides guidance on minimizing risks associated with transitioning acquisition programs from development to production. Secretary of the Navy Instruction 5420.188E, "Acquisition Category Program Decision Process," December 11, 1997, establishes Navy policy for making acquisition program decisions.

DoD Instruction 5000.2. DoD Instruction 5000.2 states that the designated milestone decision authority shall base the decision for low-rate initial production on acceptable performance in developmental test and evaluation and on an operational assessment, acceptable interoperability, and acceptable operational supportability.

DoD Manual 4245.7-M. DoD Manual 4245.7-M identifies risk-reduction activities for acquisition managers in design, testing, and production in support of each sequential acquisition program milestone. The Manual states that the acquisition program's failure to perform will in one of the design, test, and production processes will often result in a failure to do well in all areas and cause programs to become high risk. By not accomplishing risk-reduction activities, the Manual states that equipment will be deployed later and at a far greater cost than originally planned.

Secretary of the Navy Instruction 5420.188E. Secretary of the Navy Instruction 5420.188E requires program managers to provide the operational assessment report that the COMOPTEVFOR prepares to the Assistant Secretary of the Navy (Research, Development, and Acquisition) to support a low-rate initial production milestone review for acquisition programs.

Reporting the Operational Assessment Results for the Navy Program Decision Meeting

The Program Manager provided the Assistant Secretary of the Navy (Research, Development, and Acquisition) with incomplete information on the operational assessment of the ICAP III Program that COMOPTEVFOR prepared in support of the low-rate initial production decision. Specifically, the Program Manager did not provide the details from the operational assessment on the three high-risk, critical operational issues; that is, major deficiencies with ICAP III detection capabilities, crew-vehicle interface, and mission planning and analysis. In the briefing backup slides for the Navy program decision meeting, the Program Manager reported that the operational assessment also identified 50 additional deficiencies that detracted from overall system efficiency and operator awareness.

High-Risk, Critical Operational Issues. An explanation of the three high-risk, critical operational issues follows.

Detection. The COMOPTEVFOR reported that the ICAP III did not demonstrate the potential for providing accurate and timely detection and display of threat emitters in single and multiple emitter environments and in jamming and non-jamming environments. The report stated, although test emitters had been detected and the system had demonstrated the ability to rapidly display the emitters in jamming and non-jamming environments, the false emitter display ratio was exceeding high. The COMOPTEVFOR also stated that in the high false emitter display ratio cluttered the system display with erroneous information and would cause system operators to increase their workload and decrease their situational awareness.

To assess the system's detection ability, the COMOPTEVFOR tested the ICAP III against 24 threat emitters. The COMOPTEVFOR reported that the ICAP III demonstrated a false emitter display ratio of greater than 80 percent for 12 threat emitters; a false emitter display ratio of between 50 and 80 percent for 8 threat emitters; and a false emitter display ratio of less than 50 percent for 4 threat emitters. Further, the COMOPTEVFOR stated that the false emitter display ratio had been extreme against one of the 24 threat emitters. In the extreme example, the COMOPTEVFOR reported that, during a 1-hour period, 1,002 of 1,012 threat emitter symbols displayed to the operators were not associated with the actual threat emitter. The COMOPTEVFOR concluded that if the operators' display became flooded with false emitter symbols at that magnitude, operator effectiveness against that threat emitter would be severely reduced. Additionally, the COMOPTEVFOR reported that, the aircrews that tested the ICAP III expressed very low confidence in the authenticity of the threat emitter symbols displayed to them during the test missions.

Crew-Vehicle Interface. The COMOPTEVFOR reported that the crew-vehicle interface capability of the ICAP III did not demonstrate the potential for supporting aircrew situational awareness and mission accomplishment. To measure the crew-vehicle interface capability, the COMOPTEVFOR identified aircrew factors and the need to assess the integration of the USQ-113 Communications Jamming System and the Multi-mission Advanced Tactical Terminal Improved Data Modem. The COMOPTEVFOR rated the risk of the crew-vehicle interface capability of the ICAP III as high because the system did not have a fully functional alphanumeric keyboard, which represented degradation in capability from what was available in the ICAP II SYSTEM. The COMOPTEVFOR did not assess the USQ-113 Communications Jamming System and the Multi-mission Advanced Tactical Terminal Improved Data Modem because those items had yet to be integrated into the ICAP III aircraft.

Mission Planning and Analysis. The COMOPTEVFOR reported that version 7/8 of the Tactical EA-6B Mission Planning System, the current mission planning system for the ICAP III, did not demonstrate the potential for supporting the ICAP III mission. The COMOPTEVFOR stated that the major obstacle to effective mission planning and post-flight mission analysis for the operational assessment was the instability of the Tactical EA-6B Mission Planning System. The report documented instances where the Tactical EA-6B Mission Planning System failed, resulting in a halt to mission planning during the assessment and causing the operator to redo previously completed work because of lockups or erroneously displayed or deleted data. Furthermore, the COMOPTEVFOR stated that the functionality of the Tactical EA-6B Mission Planning System was inadequate. Specifically, the report stated that the type of information and the method of entering information were not user friendly. The COMOPTEVFOR also reported that most mission information produced by the Tactical EA-6B Mission Planning System was either indecipherable or insufficient for proper briefing. The report further stated that many of the current threat emitter library loads on the Tactical EA-6B Mission Planning System did not adequately support the improved signal identification capabilities of the ICAP III. In conclusion, the COMOPTEVFOR reported that the excessive number of malfunctions significantly reduced the operator's confidence in the system and drastically reduced the operator's mission planning effectiveness.

Recommendations from Operational Assessment. The COMOPTEVFOR recommended that the following three deficiencies related to the high-risk, critical operational issues be corrected and verified during the dedicated operational test and evaluation:

- Investigate and correct the high false emitter display ratio.
- Correct alphanumeric keyboard disfunctionality.
- Investigate and correct the unreliable Tactical EA-6B Mission Planning System version 7/8.

At the Navy program decision briefing to the Assistant Secretary of the Navy (Research, Development, and Acquisition), the Program Manager listed the 50 additional deficiencies as having minor to moderate risk on achieving program performance requirements. Although the 50 additional deficiencies were

identified as not critical to mission accomplishment, the COMOPTEVFOR indicated that they should be corrected and verified during the dedicated operational test and evaluation phase because they detracted from the overall EA-6B efficiency and operator situational awareness. See Appendix D for the complete description of the 50 additional deficiencies.

Requirement for Navy Program Decision Meetings

The Program Manager did not provide the COMOPTEVFOR operational assessment report to the Assistant Secretary of the Navy (Research, Development, and Acquisition) as required in support of Navy program decision meetings. Instead, the EA-6B Program Manager limited his presentation of the COMOPTEVFOR test results to their conclusions that the EA-6B ICAP III was potentially operational effective and suitable, ratings for the critical operational issues, and the backup slides listing the 50 additional deficiencies.

Navy Program Decision Meeting. In June 2003, the Program Manager briefed the Assistant Secretary of the Navy (Research, Development, and Acquisition) on the readiness of the ICAP III to enter low-rate initial production. The Program Manager stated that the program had met the exit criteria that the Assistant Secretary of the Navy (Research, Development, and Acquisition) established for entry into the low-rate initial production phase of the acquisition process. The Program Manager detailed that the COMOPTEVFOR had determined that the ICAP III system was potentially operationally effective and suitable. He also stated that the COMOPTEVFOR rated 12 of the 22 critical operational issues for effectiveness and suitability at moderate to high risk of achieving the system capabilities needed for the EA-6B to accomplish its mission. However, the Program Manager did not provide the milestone decision authority with sufficient detail on the 12 critical operational issues or descriptions of the 50 additional deficiencies to ensure that the Assistant Secretary of the Navy (Research, Development, and Acquisition) could make an informed decision on the readiness of the ICAP III to enter low-rate initial production and to begin the dedicated operational test phase. COMOPTEVFOR representatives were invited, but were unable to attend the ICAP III Navy program meeting for making the low-rate initial production decision.

Conclusion

The Assistant Secretary of the Navy (Research, Development, and Acquisition) approved the Program Manager's request in June 2003 to procure 10 ICAP III systems for low-rate initial production. As a result, the Navy increased the risk that it will incur costly retrofit expenses to correct the design deficiencies for those systems at the completion of the dedicated operational test and evaluation phase.

Until the Navy produces the follow-on EA-18G aircraft, the EA-6B is the only DoD aircraft that can perform airborne electronic attack operations. Because the

ICAP III system will be the baseline capability for the EA-18G, it is particularly important that the ICAP III system be thoroughly tested and can demonstrate the satisfaction of operational performance requirements before approval for full-rate production. To improve the likelihood that the EA-6B ICAP III will perform satisfactorily during the dedicated operational test and evaluation phase, we believe that the Assistant Secretary of the Navy (Research, Development, and Acquisition) should analyze and satisfactorily resolve the high-risk areas identified during developmental testing for the ICAP III, as well as the 50 additional deficiencies that detracted from overall efficiency or operator situational awareness identified during developmental testing before the conclusion of the dedicated operational test and evaluation phase.

Management Comments on the Finding and Audit Responses

Navy Comments. The Deputy Assistant Secretary of the Navy (Air Programs), Office of the Assistant Secretary of the Navy (Research, Development, and Acquisition) nonconcurred with the finding, stating that the COMOPTEVFOR delivered the operational assessment report to the Office of the Assistant Secretary of the Navy (Research, Development, and Acquisition) in June 2003. Furthermore, the Deputy Assistant Secretary stated that the Program Manager addressed details of the operational assessment results and provided backup material at the Navy Program Decision Meeting. Specifically, he stated that the backup material discussed the four operational mission failures that occurred during the operational assessment test and the plans and the status of the corrective actions. Additionally, the Deputy Assistant Secretary stated that the backup material identified and discussed the corrections for the high and moderate suitability risks and identified all minor critical operational issues.

Audit Response. Based on discussions with a representative from the Office of the Assistant Secretary of the Navy (Research, Development, and Acquisition), we acknowledge that the COMOPTEVFOR delivered a copy of the assessment report to the Office of the Assistant Secretary. However, the representative stated that the Assistant Secretary did not see the operational assessment report before the Navy Program Decision Meeting, nor did the Program Manager provide the Assistant Secretary with a copy of the report at the meeting. As stated in the report, the briefing charts and backup material that the ICAP III Program Manager presented at the Navy Program Decision Meeting did not provide evidence of the extent of the operational effectiveness and suitability shortcomings identified in the operational assessment report that were discussed. If the milestone decision authority had been fully aware of the extent of EA-6B ICAP III operational performance problems identified in the operational assessment report, he may not have made the decision to approve low-rate initial production. Had the Program Manager provided the report at the Navy Program Decision Meeting as required, there would be no doubt as to whether the milestone decision authority was fully informed of the extent of the operational effectiveness and suitability shortcomings of the EA-6B ICAP III when making the low-rate initial production decision.

Recommendations, Management Comments, and Audit Response

A.1. We recommend that the Assistant Secretary of the Navy (Research, Development, and Acquisition) obtain the Commander, Operational Test and Evaluation Force's operational assessment for the EA-6B Improved Capability III and not approve full-rate production until the Commander, Operational Test and Evaluation Force determines the satisfactory resolution of the 22 critical operational issues.

Navy Comments. The Deputy Assistant Secretary of the Navy (Air Programs), responding for the Assistant Secretary of the Navy (Research, Development, and Acquisition), nonconcurrent, stating that as part of the preparation for the dedicated operational test and evaluation, the EA-6B ICAP III Program Office addressed each operational assessment item to ensure that improvements, where warranted, were included in the product submitted to COMOPTEVFOR for testing. He further stated that the Assistant Secretary of the Navy (Research, Development, and Acquisition) established in the acquisition decision memorandum the requirement that COMOPTEVFOR determine that the EA-6B ICAP III Program was operationally effective and suitable before the full-rate production decision would be made. The Deputy Assistant Secretary also stated that the results of the dedicated operational test and evaluation should take precedence over the results contained in the operational assessment report in making the full-rate production decision.

Audit Response. The Deputy Assistant Secretary of the Navy (Air Programs) comments were responsive to the intent of Recommendation A.1. The Commander, Operational Test and Evaluation Force will revisit and determine the satisfactory resolution of the 22 critical operational issues as part of the dedicated operational test and evaluation that is planned before the full-rate production decision. We agree that the results of the dedicated operational test and evaluation should take precedence over the results contained in the operational assessment report. The satisfactory resolution of the 22 critical operational issues, however, should be key in the decision of the Assistant Secretary of the Navy (Research, Development, and Acquisition) to allow the EA-6B ICAP III Program to proceed into full-rate production.

A.2. We recommend that the Program Manager for the EA-6B analyze and identify fixes for the 50 additional deficiencies identified by the Commander, Operational Test and Evaluation Force in the operational assessment to increase the likelihood that the ICAP III will perform satisfactorily before concluding the dedicated operational test and evaluation phase of the acquisition process.

Navy Comments. The Deputy Assistant Secretary of the Navy (Air Programs) nonconcurrent, stating that the Program Manager for the EA-6B was already addressing the major and minor deficiencies identified in operational assessment report. He stated that the Program Manager established a process to resolve the 50 areas of risk cited in the operational assessment report and to prioritize their resolution. The Deputy Assistant Secretary stated that resolution ranged from

immediate action to removing the requirement in a future requirement update. Additionally, he stated that the COMPOPTEVFOR identifies and prioritizes deficiencies but the program sponsor provides funding to fix the deficiencies.

Audit Response. The Deputy Assistant Secretary of the Navy (Air Programs) comments were responsive to the intent of Recommendation A.2.

B. An Interim Authority to Operate Improved Capability III Information Systems

In May 2003, the Designated Approving Authority for the Naval Air Systems Command issued the Program Manager an Interim Authority to Operate (IATO) the ICAP III information system without requiring the Program Manager for the EA-6B aircraft to first complete the verification and validation phases of the Department of Defense Information Technology Security Certification and Accreditation Process (DITSCAP), as required. As a result, the Program Manager began operational testing of a system that may not satisfy system information assurance requirements.

Policy and Guidance for Certifying and Accrediting DoD Information Systems

DoD established policy and guidance to manage the certification and accreditation process for information systems. DoD Instruction 5200.40, “Department of Defense Information Technology Security Certification and Accreditation Process (DITSCAP),” December 30, 1997, and DoD Manual 8510.1-M, “Department of Defense Information Technology and Security Certification and Accreditation Process (DITSCAP) Application Manual,” July 2000, establish the process for accrediting DoD computers, systems, and networks.

DoD Instruction 5200.40. DoD Instruction 5200.40 implements policy, assigns responsibilities, and prescribes procedures for certifying and accrediting information technology in DoD systems. The Instruction identifies four phases for the DITSCAP to certify that the information technology system meets the accreditation requirements and that the system continues to meet those requirements throughout the system’s life cycle. A description of the four-phase DITSCAP follows.

- Definition – uses collected information to determine the certification level of the system, which, in turn, determines the level of effort required.
- Verification – includes activities to verify system compliance with security requirements and to evaluate vulnerabilities.
- Validation – ensures that the fully integrated system operates in a specified computing environment with an acceptable level of risk.
- Post Accreditation – includes activities to monitor system management and operation to ensure that an acceptable level of residual risk is preserved.

DoD Manual 8510.1-M. DoD Manual 8510.1-M defines information assurance as information operations that protect and defend information and information systems by ensuring their availability, integrity, authentication, confidentiality, and nonrepudiation. Information operations include providing for the restoration of information systems by incorporating protection, detection, and reaction capabilities. Further, the Manual provides guidance for program managers of information systems on the implementation of the DITSCAP and defines the responsibilities of the Designated Approving Authority, the Certification Authority, and their certification and accreditation activities.

Designated Approving Authority. The Designated Approving Authority is the official with the authority and ability to evaluate the mission, business case, and budgetary needs for the system while accounting for potential security risks. The Designated Approving Authority determines the acceptable level of residual risk and approves the system for operation. The Designated Approving Authority for the EA-6B ICAP III Program is a representative from the Information Assurance Office at the Naval Air Systems Command.

Certification Authority. The Certification Authority provides the technical expertise to conduct the certification of the system throughout the system's life-cycle based on the security requirements documented in the System Security Authorization Agreement. The Certification Authority identifies and assesses the risks associated with operating the system and makes an accreditation recommendation to the Designated Approving Authority. The Certification Authority for the EA-6B ICAP III Program is also a representative from the Information Assurance Office at the Naval Air Systems Command.

Requirements Described in System Security Authorization Agreement. DoD Manual 8510.1-M lists the requirements that should be described in a System Security Authorization Agreement (the Agreement). The DoD Manual states that the Agreement, which is a formal agreement between the Designated Approving Authority, Certification Authority, user representative, and the Program Manager, should be used to guide and document the results of the certification and accreditation process. The Manual further states that the objective of the Agreement is to establish an evolving, yet binding, agreement on the level of security needed before beginning system development. The DoD Manual also states that the Certification Authority must analyze the system and determine the degree of confidentiality, integrity, availability, and accountability required for the system. Based on this analysis, the Certification Authority recommends a certification level to which the DITSCAP certification tasks must be performed and documents this certification level in the Agreement. Once the DITSCAP process is complete, the DoD Manual states that the Agreement becomes the baseline security configuration document.

Interim Authority to Operate. DoD Manual 8510.1-M also establishes guidance for issuing an IATO. The DoD Manual specifies the need to identify a Certification Authority and a Designated Approving Authority for each information system as the individuals that would oversee the DITSCAP and process information based on preliminary results of a system security evaluation. The DoD Manual states that if an information system has not met the requirements stated in the Agreement, but that mission-critical needs require the system to become operational, the Certification Authority may recommend that

the Designated Approving Authority issue an IATO after the validation phase of the DITSCAP with the understanding that the noted deficiencies will be corrected within a set timeframe. The DoD Manual states that the deficiencies must be noted in the Agreement and that the Certification Authority, Designated Approving Authority, Program Manager, and user representative must agree to the proposed solutions, schedule, security actions, milestones, and maximum length of time for the IATO.

ICAP III Program Information Systems

The ICAP III Program integrates existing EA-6B aircraft systems and system upgrades to accomplish selective-reactive jamming and threat emitter geo-location capabilities that will enable the future EA-6B aircraft to more effectively perform its airborne electronic attack operations. The major information system upgrades for the EA-6B aircraft include the Tactical Jamming Subsystem Receiver, the Multifunctional Information Distribution System to support the Link-16 network, the Tactical Display Subsystem, and the Data Storage Memory Unit.

Issuing an IATO For the ICAP III Program

In May 2003, the Designated Approving Authority for the Naval Air Systems Command issued the Program Manager for the EA-6B aircraft an IATO before the Certification Authority verified that the ICAP III information system security requirements were complete.

Completeness of System Security Authorization Agreement. DoD Manual 8510.1-M states that the Certification Authority should identify the certification level needed for DITSCAP certification tasks in the ICAP III Program Agreement. The ICAP III Certification Authority, however, did not document the certification level in the draft Agreement. Without identifying the certification level and the level of effort needed to complete the DITSCAP certification tasks, the Certification Authority did not have information needed to effectively perform the verification and validation phases for the ICAP III Program.

Status of the ICAP III Program DITSCAP. In May 2003, the Program Manager for the EA-6B aircraft issued an Information Assurance Strategy for the ICAP III Program. The Information Assurance Strategy stated that DITSCAP certification procedures in DoD Instruction 5200.40 and DoD Manual 8510.1-M were being applied for the ICAP III Program, that the ICAP III Program was in the definition phase of the DITSCAP, and that the Program Manager had provided the initial information needed to complete the definition phase and would provide the additional information needed to complete the Agreement for final accreditation of the ICAP III information system. As of June 2004, a representative at the Naval Air Systems Command stated that the program was still in the definition phase of the DITSCAP, and that the Certification Authority was reviewing the applicable requirements for the system security baseline. The

representative stated that once the review was complete, the Designated Approving Authority would perform system verification and validation of those baseline requirements.

Requirements for Issuing an IATO

The Designated Approving Authority did not require the Program Manager for the EA-6B aircraft to complete the verification and validation phases of the DITSCAP as required before issuing the IATO. The IATO was issued during the definition phase of the DITSCAP instead of after the validation phase of the DITSCAP as required by DoD Manual 8510.1-M. A representative at the Naval Air Systems Command stated that the recommendation to issue the IATO for the ICAP III Program was based on the Certification Authority's analysis of the draft Agreement, a review of the system architecture, and the identification of any associated risks. The representative also stated that the IATO was issued to prevent delay of the scheduled testing. Before issuing the IATO for the ICAP III information system, the Designated Approving Authority should have required the Program Manager to complete the verification and validation phases of the DITSCAP to ensure system compliance with security requirements and to validate that the fully integrated system could operate in a specified computing environment with an acceptable level of risk.

Conclusion

As a result of the Program Manager's obtaining the IATO, the ICAP III Program entered into operational testing without the assurance that the system could satisfy system information assurance requirements. To ensure that disruption to mission operations from information security risks have been mitigated, system information assurance requirements must be satisfied so that an appropriate level of confidentiality, integrity, availability, and authentication is protected for the ICAP III information systems.

Management Comments on the Finding and Audit Response

Navy Comments. The Deputy Assistant Secretary of the Navy (Air Programs), responding for the Certification Authority for the EA-6B Improved Capability III Program, Naval Air Systems Command, partially concurred with the finding, stating that the Naval Air Systems Command Designated Approving Authority and Certification Authority reviewed the IATO and the process followed by the Information Assurance Program Officer in issuing this document. Although he agreed that the DITSCAP typically requires the review and issuance of the IATO after completion of the verification and validation phase of a program, he stated that interpretation of DITSCAP requirements did not accurately reflect the practical application of an information assurance program. The Deputy Assistant Secretary stated that the Information Assurance Program Officer met with the Program Manager to address overall information assurance requirements, to include testing the ICAP III variant on a test platform. He also stated that the

Information Assurance Program Office assessed the security architecture and the design and determined there was minimal risk of unauthorized disclosure, modification, or availability of National Security Information, and that if an unacceptable level of risk had been determined during the review process, the Naval Air Systems Command Designated Approving Authority would not have authorized the interim authority to operate for the test and evaluation period.

Audit Response. We agree that the Naval Air Systems Command Designated Approving Authority and Certification Authority reviewed the IATO and the process following its issuance. However, in not completing the verification and validation phases of the DITSCAP for the EA-6B ICAP III Program as required to ensure compliance with security requirements and to validate that the fully integrated system could operate in a specified computing environment with an acceptable level of risk, the Program Manager could not provide assurance to COMOPTEVFOR that the EA-6B ICAP III Program could satisfy information assurance requirements before operational testing.

Recommendations, Management Comments, and Audit Responses

B.1. We recommend that the Certification Authority for the EA-6B Improved Capability III Program, Naval Air Systems Command:

- a. Complete all definition, verification, and validation requirements to comply with the DoD Information Technology Security Certification and Accreditation Process.
- b. Document the certification procedures and test results in the EA-6B Improved Capability III System Security Authorization Agreement.
- c. Use the results from completing the DoD Information Technology Security Certification and Accreditation Process to recommend to the Designated Approving Authority for the EA-6B Improved Capability III whether to continue granting the EA-6B Program Manager an Interim Authority to Operate.

B.2. We recommend that the Designated Approving Authority for the EA-6B Improved Capability III Program, Naval Air Systems Command base the decision to continue granting the EA-6B Program Manager an Interim Authority to Operate on the recommendation of the Certification Authority for the EA-6B Improved Capability III Program.

Navy Comments. The Deputy Assistant Secretary of the Navy (Air Programs), responding for the Certification Authority and the Designated Approving Authority for the EA-6B Improved Capability III Program, Naval Air Systems Command, concurred with the two recommendations and stated that the Certification Authority planned to accomplish the actions listed in Recommendation B.1. and would make his recommendations on whether to continue granting the IATO to the Designated Approving Authority.

Audit Response. The Deputy Assistant Secretary's comments were responsive to the two recommendations.

C. Use of Failure Data for the Improved Capability III Program Hardware

The subcontractor did not submit, through the prime contractor for the ICAP III Tactical Jamming System Receiver, updated reliability prediction data needed to perform a cost-benefit analysis to determine the best maintenance and logistical support strategy for the receiver. This condition occurred because the Program Manager did not direct the prime contractor to update reliability predictions after analyzing and resolving all hardware failures identified during developmental testing or to retain documentation of corrective actions taken to reduce the frequency of hardware failures. As a result, the Program Manager is not able to accurately predict the expected reliability of the Tactical Jamming System Receiver and may incur higher than expected costs to maintain and logistically support the receiver when the ICAP III Program becomes operational.

System Reliability Criteria and Guidance

The Interim Defense Acquisition Guidebook provides program managers with guidance to use to sustain system reliability. DoD Manual 4245.7-M, “Transition from Development to Production,” September 1985, provides program managers with additional guidance for reporting and analyzing data on system failure.

Interim Defense Acquisition Guidebook. The Interim Defense Acquisition Guidebook states that effective sustainment of weapon systems begins with the design and development of reliable and maintainable systems through the continuous application of a robust systems engineering methodology. The Guidebook also states that program managers shall conduct supportability analyses to achieve the most cost-effective support strategy and to form the basis for logistics support planning.

DoD Manual 4245.7-M. DoD Manual 4245.7-M states that all system failures should be analyzed in sufficient depth to identify the cause of failure and the necessary corrective actions; that criticality of failures should be prioritized in accordance with their individual impact on operational performance; and, that a central technical organization should be responsible for implementing and monitoring the failure reporting system.

ICAP III System Engineering Management Plan

To implement the DoD guidance, in February 1998, the Program Manager for the EA-6B aircraft directed Northrop Grumman to develop and use a Systems Engineering Management Plan for the ICAP III Program reliability, maintainability, and failure analysis. In September 1998, the contractor completed the ICAP III Systems Engineering Management Plan, which states that

reliability predictions shall be calculated based on anticipated system failure rates. The plan indicates that predictions calculated in the failure modes and effects and criticality analysis document shall be updated when a review of the failures identified during testing had been analyzed.

Contract System Reliability Requirements

In March 1998, the Program Manager awarded a contract to Northrop Grumman for the design and development of the ICAP III. In the contract, the Program Manager required Northrop Grumman to ensure that system failure reporting commenced in sufficient time to provide failure-reporting data to support the operational assessment and the dedicated developmental and operational tests. Additionally, the Program Manager required Northrop Grumman to establish a logbook for each ICAP III subsystem to record the failures, analysis, and corrective actions taken. Further, to better identify the sustainment requirements, the Program Manager required the contractor to perform system failure analysis and subsequently report system reliability predictions in the system failure modes and effects and criticality analysis document.

Subcontractor Submission of Failure Analysis Data

The Program Manager did not require the subcontractor to submit, through the prime contractor for the ICAP III Tactical Jamming System Receiver, updated reliability prediction data needed to perform a cost-benefit analysis study to determine whether it was more effective for the Navy or for the subcontractor to establish the facilities to provide supply support and to repair the receiver system.

The subcontractor for the ICAP III Tactical Jamming System Receiver did maintain a system failure logbook for developmental systems one, two, and three. As of November 2003, the logbook contained 846 entries; 55 failures were not closed and 791 failures were closed. In maintaining the logbook entries, however, the subcontractor did not fully comply with requirements in the development contract. Specifically, the subcontractor did not always prioritize the criticality of the failures or document what corrective actions were taken to close the failures in the logbook. Further, the subcontractor did not retain detailed documentation supporting the reason for closure or nonclosure of listed failures. The subcontractor stated that when corrective action was needed, engineering changes were made to the design and hardware, but corrective actions taken on the failures were not documented in the logbook. The subcontractor also stated that an integrated process team of program office and contractor staff reviewed the failure reports and informally decided on the appropriate corrective actions.

In June 2001, the contractor issued the final failure modes and effects and criticality analysis document that reported the subcontractor's efforts to document the 263 system failures. Subsequently, the subcontractor continued to track, analyze, and report on failures identified on the three receivers' developmental

systems. Without direction from the EA-6B Program Office, through the prime contractor, the subcontractor did not update the reliability prediction data for the Tactical Jamming System Receiver after June 2001.

Cost-Benefit Analysis for the ICAP III Program. As a part of the future acquisition support strategy for the ICAP III, the Program Manager is considering whether it is more cost-effective to use the performance-based logistics support services offered by Northrop Grumman or the existing Navy supply and maintenance facilities. The Interim Defense Acquisition Guidebook emphasizes that program managers should conduct supportability analyses to determine the most cost-effective support strategy. In the ICAP III Systems Engineering Management Plan, the Program Manager directed Northrop Grumman to use the failure data collected during development testing to prepare the failure analysis and reliability prediction documentation that could be used to complete a cost-benefit analysis. Because the Program Manager did not require the contractor and the Tactical Jamming System Receiver subcontractor to update the documentation based on completed failure data, an up-to-date, cost-benefit analysis was not available to determine the most cost-effective acquisition support strategy for the Tactical Jamming System Receiver.

Conclusion

As a result of not being able to accurately predict the expected reliability of the Tactical Jamming System Receiver, the Program Manager may incur higher than expected costs to maintain and logistically support the receiver when the ICAP III Program becomes operational. Updating reliability prediction data on the Tactical Jamming System Receiver would enable the Program Manager to better determine whether it is more cost-effective to use the subcontractor for performance-based logistics support or to use existing Navy supply and maintenance facilities to provide supply support and to repair the receiver system. In addition, updating the reliability prediction data would enable the Program Manager to better estimate the life-cycle costs for the ICAP III Program.

Management Comments on the Finding and Audit Responses

Navy Comments. The Deputy Assistant Secretary of the Navy (Air Programs), responding for the Program Manager for the EA-6B, nonconcur with the finding, stating that the contractor's reliability and maintainability program followed during the system development phase of the acquisition process formed the basis for follow-on phases of the program and was established to identify failures during the earliest phase in the design and to implement the corrective action at the earliest possible time and at the least cost to the program. He stated that the Program Manager actively pursued a policy that ensured that the supportability and testability of all ICAP III components would be traceable to failure and damage modes as predicted, and that every corrective action would be accurately documented through feedback to the design agents. The Deputy Assistant Secretary also stated that the data requested by the audit team covered a time period of more than 2 years and needed to be formatted into a useable report.

He stated that, by mutual consent, the audit team and the ICAP III Integrated Process Team decided against producing such a report because it would be outside of the scope of existing documentation. The Deputy Assistant Secretary stated that the Reliability Engineer met with the audit team in May 2004 and provided examples from the Northrop Grumman failure reporting and corrective action system database, the reliability maintainability and review board database, and meeting minutes.

Audit Response. The Program Manager did establish a reliability and maintainability program to identify failures during the earliest phase in the design process and to implement the corrective action as early as possible. However, our review of failure logbook documentation for the Tactical Jamming System Receiver indicated that the subcontractor did not execute the reliability and maintainability program as required in the development contract statement of work and the ICAP III Systems Engineering Management Plan. As stated in the draft report, we attempted to review a judgment sample of the failure anomalies listed in the receiver subcontractor failure logbook at the subcontractor facility and were unable to trace the line items to a documented analysis to show subcontractor actions taken to close each failure entry.

Recommendations, Management Comments, and Audit Response

C. We recommend that the Program Manager for the EA-6B Program:

1. Require Northrop Grumman Electronic Systems, Baltimore, Maryland, through the prime contractor, to update the failure report logbook to prioritize open system failures for the Tactical Jamming System Receiver and to cross-reference corrective actions taken to close each failure entry.

Navy Comments. The Deputy Assistant Secretary of the Navy (Air Programs), responding for the Program Manager for the EA-6B, nonconcurred, stating that the failure reporting and corrective action system provides the means to document and improve the reliability of the design through failure recording, analysis, and, if applicable, corrective design actions. He also stated that the failure reporting and the corrective action system reporting do not begin until the system reaches design maturity, and that the Reliability and Maintainability Integrated Process Team determined that the failure reporting and corrective action system reporting would begin when the ICAP III system was sufficiently mature. The Deputy Assistant Secretary further stated that logbook entry anomalies may or may not be in the failure reporting and corrective action system database, depending on the development phase in which the anomalies occurred. Additionally, he stated that the logbooks were an internal Northrop Grumman practice and not a contract requirement. The Deputy Assistant Secretary stated that the purpose of the failure logbook was to record anomalies that occurred during each shift, but that all

anomalies were not recorded in the failure reporting and corrective action system database. Finally, he stated that if the anomalies were not placed into the failure database, they were described as development notes.

Audit Response. The Deputy Assistant Secretary's comments were not responsive. Furthermore, the Deputy Assistant Secretary's comment on the start of failure reporting is not consistent with provisions in DoD Manual 4245.7 which recommends that all system failures be analyzed, prioritized, and monitored. In this regard, the contract statement of work did require Northrop Grumman to perform analysis on its failures, in a logbook, in sufficient time to support the operational assessment and the dedicated development and operational tests. As stated in the draft report, the subcontractor did not retain documentation supporting the reason for closure or nonclosure of listed failures in the failure report logbook as required. Accordingly, we request that the Deputy Assistant Secretary reconsider his position on the recommendation to require Northrop Grumman Electronic Systems, Baltimore, Maryland, through the prime contractor, to update the failure report logbook to prioritize open system failures for the Tactical Jamming System Receiver and to cross-reference corrective actions taken to close each failure entry.

2. Obtain from Northrop Grumman Electronic Systems, Baltimore, Maryland, through the prime contractor, an updated failure modes and effects and criticality analysis document that includes an analysis of corrective actions taken to resolve system failures that occurred after June 2001.

Navy Comments. The Deputy Assistant Secretary of the Navy (Air Programs) nonconcurred, stating that the Reliability Prediction and the FMECA (Failure Mode Effects and Criticality Analysis) are tools used to assess the proposed design for compliance with requirements, supportability, and testability. He also stated that the predictions are design assessment tools used in the absence of actual failure data, and that once the design is completed and solidified, there is little payoff in performing updates unless major design changes occur. The Deputy Assistant Secretary further stated that once actual failure data have been obtained, the failure predictions become obsolete and the FMECA should not be updated.

Audit Response. The Deputy Assistant Secretary of the Navy (Air Programs) comments were not responsive. As stated in the draft report, the ICAP III System Engineering Management Plan addressed the need for reliability predictions and the failure modes and effects and criticality analysis document. The plan required that reliability predictions be calculated based on anticipated ICAP III system failures and that assumptions made in the ICAP III failure modes and effects and criticality analysis document be updated when a review of the failures identified during testing had been analyzed. Because the design for the EA-6B ICAP III Program has not stabilized, updating the FMECA, as called for in the System Engineering Management Plan, would provide the Program Manager for the EA-6B with the information he needs to determine whether it is more cost-effective to use the subcontractor's logistics support or to use existing Navy supply and maintenance facilities to provide support and to repair the receiver system. Accordingly, we request that the Deputy Assistant Secretary reconsider his position on the recommendation to obtain from Northrop Grumman Electronic

Systems, Baltimore, Maryland, through the prime contractor, an updated failure modes and effects and criticality analysis document that includes an analysis of corrective actions taken to resolve system failures that occurred after June 2001.

3. Perform a cost-benefit analysis after implementing Recommendations C.1. and C.2. to determine the most cost-effective acquisition support strategy for the Tactical Jamming System Receiver.

Navy Comments. The Deputy Assistant Secretary of the Navy (Air Programs) nonconcurred, stating that the business case analysis to determine the acquisition support strategy for the Tactical Jamming System Receiver was being performed by the Navy Inventory Control Point, which is an independent program office that is not under the control of the Program Manager for the EA-6B. He also stated the ICAP III Integrated Logistic Support Integrated Process Team provided the Navy Inventory Control Point with the latest reliability predictions for use in the business case analysis and that the team was revising those predictions based on the results from the dedicated technical and operational testing evaluations. The Deputy Assistant Secretary also stated that because the test data sample size was not yet significant enough to use in place of the latest reliability predictions, the predicted reliability would be used to forecast the support requirements for the Tactical Jamming System Receiver.

Audit Response. The Deputy Assistant Secretary's comments were responsive to the intent of the recommendation. A better prediction of the reliability of the Tactical Jamming System Receiver should result from the ICAP III Integrated Logistics Support Process Team's revising earlier reliability predictions for the Tactical Jamming System Receiver with reliability data from the dedicated technical and operational testing to achieve results similar to the action recommended.

Appendix A. Scope and Methodology

We evaluated whether the EA-6B Program Manager was cost-effectively readying the ICAP III Program for the production phase of the acquisition process. Consequently, we focused the review on the areas of test and evaluation, information systems security, and system failure reporting. We performed this audit from September 2003 through June 2004 in accordance with generally accepted government auditing standards.

We reviewed documentation dated from July 1997 through December 2003, which we obtained from the Naval Air Systems Command, Program Management Activity-234, Patuxent River, Maryland; Northrop Grumman Integrated Systems, Bethpage, New York; Commander, Operational Test and Evaluation Force, Norfolk, Virginia; Naval Air Warfare Center Weapons Division, Point Mugu, California; and Northrop Grumman Electronic Systems, Baltimore, Maryland.

To accomplish the audit objectives, we took the following steps:

- We reviewed DoD Instruction 5000.2, “Operation of the Defense Acquisition System,” May 12, 2003, and Secretary of the Navy Instruction 5420.188E, “Acquisition Category Program Decision Process,” December 11, 1997, to determine whether the EA-6B Program Manager had provided complete information as required by DoD and Navy policy to the Assistant Secretary of the Navy (Research, Development, and Acquisition) on the operational assessment for the ICAP III Program prepared by the Commander, Operational Test and Evaluation Force. To make the determination, we reviewed the operational assessment and interviewed COMOPTEVFOR representatives regarding the operational assessment test results. We also reviewed the Navy program decision briefing used by the milestone decision authority to make the low-rate initial production decision.
- We reviewed DoD Instructions 5200.40, “Department of Defense Information Technology Security Certification and Accreditation Process,” December 30, 1997, and DoD Manual 8510.1-M, “Department of Defense Information Technology and Security Certification and Accreditation Process Application Manual,” July 2000, to determine whether the Certification Authority ensured that system security verification tasks as required by DoD policy had been completed for the ICAP III Program and whether the Designated Approving Authority ensured that the required validation tasks were completed before issuance of the IATO. In addition, we determined whether the Program Manager had fully completed the DITSCAP to provide decision makers with full assurance that the ICAP III information systems will function correctly and meet performance requirements.
- We reviewed the Interim Defense Acquisition Guidebook and DoD Manual 4245.7-M, “Transition from Development to Production,” September 1985, to determine whether the Program Manager followed established policies and guidance when he provided Northrop Grumman direction to perform reliability and maintainability failure analysis for the

Tactical Jamming System Receiver. We reviewed and analyzed the composite list of open Tactical Jamming System Receiver trouble reports, the Systems Engineering Management Plan, the failure modes and effects and criticality analysis document, and subcontractor submission of failure analysis data in the failure report logbook to determine corrective actions taken to reduce future hardware failures. In addition, we interviewed representatives from Northrop Grumman Integrated Systems and Northrop Grumman Electronic Systems.

During the review, the Program Manager's representatives did not respond timely to the audit team's repeated requests for documentation to support the life-cycle cost estimate that the Program Manager reported in the October 2003 acquisition program baseline agreement. As a result, the audit team prepared a potential finding with recommendations to ensure that the Program Manager documented his future life-cycle cost estimates. The audit team presented this potential issue in a discussion draft report to the Program Manager's representatives in March 2004. In May 2004, the representatives presented the audit team with the documentation that supported the October 2003 acquisition program baseline agreement. In future audit reviews, the Program Manager should ensure that his representatives respond more timely to audit requests for documentation.

Use of Computer-Processed Data. We did not use computer-processed data to perform this audit.

Use of Technical Assistance. A computer engineer from the Technical Assessment Division, Office of the Assistant Inspector General for Auditing of the Department of Defense participated in the review of the ICAP III Program. Specifically, the computer engineer evaluated the information assurance process and the level of software failures that required alternative system solutions.

General Accounting Office High-Risk Area. The General Accounting Office has identified several high-risk areas in DoD. This report provides coverage of the DoD Weapons System Acquisition high-risk area.

Management Control Program Review

DoD Directive 5010.38, "Management Control (MC) Program," August 26, 1996, and DoD Instruction 5010.40, "Management Control (MC) Program Procedures," August 28, 1996, require DoD organizations to implement a comprehensive system of management controls that provide reasonable assurance that programs are operating as intended and to evaluate the adequacy of the controls.

Scope of the Review of the Management Control Program. In accordance with DoD policy, acquisition managers are to use program cost, schedule, and performance parameters as control objectives to implement the requirements of DoD Directive 5010.38. Accordingly, we limited our review to management controls directly related to areas of test and evaluation, information assurance, and design failure reviews for the ICAP III Program. We also assessed management's self-evaluation of those controls.

Adequacy of Management Controls. We identified management control weaknesses, as defined by DoD Instruction 5010.40, relating to reporting of test and evaluation results, information assurance, and system failure reviews. Specifically, the Program Manager did not provide the COMOPTEVFOR operational assessment to the milestone decision authority as required for the Navy Program Decision Meeting or fully verify that analysis and corrective action had been performed on hardware failures. In addition, the Designated Approving Authority for the Naval Air Systems Command did not follow procedures for issuing the Program Manager an IATO. Recommendations A.1., A.2., B.1., B.2., C.1., and C.2., if implemented, will improve the overall management of the ICAP III Program. A copy of this report will be provided to the senior official responsible for management controls in the Department of the Navy.

Adequacy of Management's Self-Evaluation. The Program Executive Officer for Tactical Aircraft Programs performed annual reviews of the ICAP III Program's assessable units to satisfy the management control requirements. The Program Executive Officer used executive acquisition review boards, program management reviews, readiness reviews, quality assessments, financial system reviews, audits, independent evaluations, inspections, internal reviews, investigations and consulting reviews to evaluate the assessable units for the program. The Program Executive Officer based his annual statement of assurance on results noted during the reviews of the assessable units. However, in the self-evaluations, the Program Executive Officer did not identify the specific management control weaknesses because the self-evaluations did not review those specific areas as part of the assessable units.

Prior Coverage

During the last 5 years, the General Accountability Office (GAO) has issued four reports that discuss the EA-6B Prowler aircraft and its role in airborne electronic attack needed for suppression of enemy air defenses. Unrestricted GAO reports can be accessed over the Internet at <http://www.gao.gov>.

GAO

GAO Report No. GAO-04-112, "Military Readiness: DoD Needs to Reassess Program Strategy, Funding Priorities, and Risks for Selected Equipment," December 19, 2003

GAO Report No. GAO-03-51, "Electronic Warfare: Comprehensive Strategy Still Needed for Suppressing Enemy Air Defenses," November 25, 2002

GAO Report No. GAO-01-28, "Electronic Warfare: Comprehensive Strategy Needed for Suppressing Enemy Air Defenses," January 3, 2001

GAO Report No. GAO-00-164, "Contingency Operations: Providing Critical Capabilities Poses Challenges," July 6, 2000

Appendix B. Other Matters of Interest

During the audit, we noted a matter of interest concerning test deficiencies in the ICAP III software.

Test Deficiencies in ICAP III Software

In March 2003, the Program Manager released build three of the ICAP III software to the Naval Air Systems Command Technical Assurance Board for an independent technical evaluation. Concurrently, he completed the development of build four and readied it for formal qualification testing. During the integration test processes for the two builds, the program software team identified 303 priority three software deficiencies. As defined in Military Standard 498, "Software Development and Documentation," December 5, 1994, priority three software deficiencies are rated as manageable, provided that the software development team can identify alternative solutions.

Through the Software Development Plan, the Program Manager established a joint Government and contractor software integrated process team to manage the integrated software testing at the Naval Air Warfare Center Weapons Division, Point Mugu, California. The EA-6B Program Manager is relying on the program's software integrated process team to monitor ICAP III software development testing and to track and resolve deficiencies noted with builds three and four. In November 2003, the Government software integrated process team leader stated that an analysis of the 303 software deficiencies should be completed to determine the effect on computer software configuration items. Also, in November 2003, a representative for COMOPTEVFOR stated, when asked about the number of software deficiencies for the tactical display, that if the alternative solutions resulted in more display screens than originally planned, an aircraft operator could not effectively perform the airborne electronic attack mission. As of June 2004, the integrated process team had not analyzed the level of risk associated with the 303 priority three software deficiencies.

By not analyzing the level of risk associated with the number of priority three deficiencies, the integrated process team did not fully execute the software development processes that the Program Manager planned. Through the performance of a detailed risk analysis, the Program Manager could better inform the milestone decision authority of the effects of the alternative solutions on the performance requirements for the ICAP III Program software.

Appendix C. Upgrades for the Improved Capability III System

The ICAP III Program is one of several planned improvements to the EA-6B Prowler aircraft that will ensure that the aircraft remains the world's premier tactical electronic warfare platform and is able to sustain the DoD airborne electronic attack mission through 2015.

The ICAP III Program is a Navy Acquisition Category II program that will provide the electronic attack mission with selective-reactive jamming capability in a wider frequency range, improve information display and battle management capability, accommodate provisions for a modern data link, and improve the reliability of affected systems through the upgrades to the following systems:

- **New On-board Receiver Subsystem.** The Tactical Jamming System Receiver system replaces the ALQ-99 on-board weapon system. The receiver gives the EA-6B the ability to employ selective-reactive jamming of enemy integrated air defense systems. This upgrade will recover the effectiveness lost to modern electronic warfare, acquisition radars, and surface to air missiles by applying intense, narrow-spot jamming. The new receiver group has 10 weapons-replaceable assembly units.
- **Tactical Display Subsystem.** The new Tactical Display Subsystem, combined with an Interface Unit, will provide display and operator interface improvements and eliminate the use of the laptop computer in the cockpit. This technology will result in displays that allow the aircrews to focus on the relevant elements of friendly forces, the enemy, allied forces, weather, terrain, and numerous other fixed and dynamic data that comprise the "tactical picture."
- **Provisions for Connectivity Integration.** To function as the sole airborne tactical jammer for DoD, the EA-6B aircraft, inherently, must be part of the larger "Sensor to Shooter" architecture. As such, the EA-6B aircraft must be capable of sending, receiving, and coordinating accurate and timely information from other air, land, and sea sensors and command and control centers. The addition of the Multifunctional Information Distribution System Link-16 network will provide this capability to the EA-6B aircraft.

Appendix D. Additional Recommendations for the Operational Assessment of the Improved Capability III System

The Commander, Operational Test and Evaluation Force issued an operational assessment for the EA-6B ICAP III weapon system on June 5, 2003. The COMOPTEVFOR identified 50 deficiencies of the EA-6B ICAP III, which were not critical to mission accomplishment, but detracted from the overall EA-6B operator efficiency or operator situational awareness. The COMOPTEVFOR suggested that the 50 deficiencies be corrected and verified during the dedicated operational test and evaluation phase. The 50 additional deficiencies identified for the ICAP III system include:

1. Investigate and correct the cause of erroneous misidentification of threat emitters.
2. Resolve deficiencies of a single strike group route when implementing reactive assignments.
3. Investigate and correct the Tactical Jamming System Receiver lockups that occurred during various mission phases throughout operational assessment testing.
4. Investigate and correct the areas of risk that cause an excessive heads-down time by the pilot.
5. Correct the inability to choose between a moving map and a static display.
6. Correct the illogical color display of emitters.
7. Investigate and correct the unreliable nature of built-in tests.
8. Investigate and correct inconsistent Reactive Assignment initiation time.
9. Investigate and correct the area of risk that prevents the operator from changing the classification of a complex ambiguous emitter.
10. Investigate and correct the inconsistent geo-locations.
11. Investigate and correct the inadequacies of the Tactical EA-6B Mission Planning System mission planning tools.
12. Investigate and correct the inadequacies of the Tactical EA-6B Mission Planning System user interface.
13. Investigate and correct the inadequacies of the Tactical EA-6B Mission Planning System emitter libraries.

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14. Investigate and correct the cumbersome strike group route adjustment.
 15. Correct the Operational Navigational Chart and the background images in the Tactical Pilotage Chart so that overlays are not washed out.
 16. Investigate and correct the excessive generation of reactive assignments.
 17. Investigate and correct the cumbersome display of new emitter information on the Alarms Page.
 18. Improve the speed of Electronic Counter Measure Officer 2 and 3's cursor.
 19. Improve the functionality of Tactical Display Subsystem cursors.
 20. Correct the obstruction of the upper 10 percent of the pilot's display.
 21. Improve display startup defaults on the geo-location page.
 22. Investigate and correct the area of risk that permits the pilot to inadvertently turn off the anti-collision light.
 23. Correct Pocket Checklist areas of risk.
 24. Correct Naval Air Training and Operating Procedures Standardization areas of risk.
 25. Investigate and correct the nonoptimized jammer assignment logic for band 9 and band 10 Reactive Assignments.
 26. Incorporate A-F functionality.
 27. Correct cumbersome de-cluttering functionality.
 28. Improve Bulls eye adjustment procedures.
 29. Investigate and correct the area of risk that caused emitter symbols to be displayed without associated parametric information.
 30. Incorporate a radar cursor slew function.
 31. Improve mission clock functionality.
 32. Improve soft keypad data entry procedures.
 33. Improve training for ICAP III version 7/8 of the Tactical EA-6B Mission Planning System.
 34. Incorporate a frequency management planning tool in version 7/8 of the Tactical EA-6B Mission Planning System that assists the operator with identifying and correcting frequency conflicts, such as Joint Restricted Frequency List.

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35. Investigate the area of risk that prevented operators from making Alarm Assignments.
 36. Investigate and correct the area of risk that allows operators to inadvertently purge the active emitter file.
 37. Investigate and correct the area of risk that caused the Tactical Display Subsystem to revert to status page upon library loads.
 38. Incorporate a transmitter centroiding indication on the jammer assignment status display.
 39. Investigate and correct the area of risk that caused an inconsistent display of information when changing the size of the emitter ellipse.
 40. Improve jammer pod power failure and steering failure alerts.
 41. Improve the display of changes to the jammer assignment status page.
 42. Improve the alarm zone frequency adjustment sequence.
 43. Correct the font size for easier reading.
 44. Improve the usability of target tracker lines.
 45. Incorporate a frequency/azimuth page on the pilot's Tactical Display Subsystem.
 46. Resolve the conflicting information presented to the operator on the jammer assignment status page.
 47. Correct the altered Library Summary Mission Plan page priorities.
 48. Change recorder reproducer set fail light to reflect presence of the data storage memory unit.
 49. Incorporate a threat warning or radar homing and warning system.
 50. Streamline ICAP III training for fleet operator use.

Appendix E. Navy Development and Operational Test Procedures

Through the test and evaluation process, the Navy will evaluate technical performance and system maturity to determine whether the ICAP III system is operationally effective, suitable, and survivable against identified threats. The Navy's process includes developmental test, technical evaluation, operational test, and follow-on test phases to determine whether the ICAP III Program hardware and software have been adequately readied for production. A description of the Navy's four test phases for the ICAP III Program follows.

Developmental Testing

Developmental testing supports multiple sub-phases of ICAP III Program contractor and Government testing. The objective of developmental testing is to ensure that the designed hardware subsystems and related software performance meet the system specifications. Additionally, this test phase is to verify whether the ICAP III hardware and software modifications are properly installed, meet safety of flight requirements, function correctly, and satisfy top-level integrated system performance requirements. The Program Manager used the results of this phase to determine the integrated system's potential to meet required operational characteristics in support of the low-rate initial production decision and to determine the degree of readiness to proceed to the technical evaluation.

Northrop Grumman developed three complete sets of hardware subsystems to use for developmental testing. The contractor placed system one at the Naval Air Warfare Center Weapons Division, Point Mugu, California; and systems two and three on two EA-6B test aircraft. Northrop Grumman also planned to develop five increments of the ICAP III Program software. As of June 2004, the contractor had developed four increments. The Program Manager used the contractor's third increment for the Navy's technical evaluation process. Operational testers are using the fourth software increment in the operational test phase.

Operational Assessment. During the developmental test phase, the Navy independent test agency performed an operational assessment to determine the potential operational effectiveness and potential operational suitability of the EA-6B ICAP III system. In June 2003, COMOPTEVFOR completed the ICAP III Program operational assessment. The Navy used the results of the operational assessment to support a decision to begin low-rate initial production. See finding A for the results of that assessment.

Technical Evaluation

During the Navy technical evaluation phase, the Naval Air Systems Command's Technical Assurance Board and the ICAP III Naval Strike Air Test and Evaluation Squadron 23 performed independent testing of ICAP III hardware and software. To perform the evaluation, the squadron used its own pilots, maintenance services, safety oversight, and facility support. In July 2003, the Naval Air Squadron began testing the ICAP III hardware and software that had been integrated into the two EA-6B test aircraft. The Naval Air Squadron used the results of this phase to evaluate the readiness of the ICAP III to begin the operational testing phase. The Program Manager will also use the results of the technical evaluation to support the ICAP III Program full-rate production decision.

Operational Testing

The Navy operational test and evaluation phase will determine whether the ICAP III system is operationally effective and suitable under realistic conditions. This test phase also will determine whether critical operational issue deficiencies that were previously identified have been resolved and assess the potential effect that system limitations may have on actual combat operations.

Operational testing will be conducted on production-representative ICAP III hardware and software. At the conclusion of the tests, the Commander, Operational Test and Evaluation Force will provide an independent and objective evaluation report to the milestone decision authority stating whether the ICAP III is operationally effective and suitable. Successful accomplishment of operational evaluation will support a fleet introduction recommendation and support an ICAP III Program full-rate production decision.

Follow-on Test and Evaluation

The Program Manager plans to use a follow-on test and evaluation phase to test additional planned EA-6B upgrades that will not be available when the ICAP III system is produced and installed on the aircraft. The systems that are scheduled for follow-on testing include the Multifunctional Information Distribution System Link-16 network and the Joint Mission Planning System.

Appendix F. Audit Response to Management Comments on the Report

Deputy Assistant Secretary of the Navy (Air Programs) Comments

The Deputy Assistant Secretary of the Navy (Air Programs), Office of the Assistant Secretary of the Navy (Research, Development, and Acquisition), responding for the Program Manager for the EA-6B, provided additional comments on the EA-6B Program Office's cooperation with the audit team. The complete text of the management comments on statements in the draft report is in the Management Comments section of this report.

Navy Comments. The Deputy Assistant Secretary stated that the Program Manager, through the ICAP III Integrated Process Team, had fully cooperated with the audit team in every Naval Air Systems Command meeting and field site visit.

Audit Response. The Program Manager, through the ICAP III Integrated Process Team, generally complied with the audit team's request for meetings and documentation. However, as stated in the draft audit report, we experienced difficulty in timely obtaining documentation that supported the ICAP III system life-cycle cost estimate. We requested that this information be provided for analysis in November 2003 at the beginning of the audit. Additionally, we experienced delays in discussing the ICAP III failure reporting and reliability issues with the reliability and maintainability Integrated Process Team Leader. Again, we requested to hold the meeting in November 2003. The Program Office did not make knowledgeable personnel available to meet and discuss the cost estimating and the failure reporting issues until after we prepared our proposed draft report and staffed it with the ICAP III Integrated Process Team in May 2004. Earlier meetings with the knowledgeable personnel would have facilitated the conduct of the audit and reduced misunderstanding between the auditors and the Program Office staff.

Appendix G. Report Distribution

Office of the Secretary of Defense

Under Secretary of Defense for Acquisition, Technology, and Logistics
Under Secretary of Defense (Comptroller)/Chief Financial Officer
 Deputy Chief Financial Officer
 Deputy Comptroller (Program/Budget)
Director, Operational Test and Evaluation
Director, Program Analysis and Evaluation

Joint Staff

Director, Joint Staff

Department of the Army

Auditor General, Department of the Army

Department of the Navy

Assistant Secretary of the Navy (Manpower and Reserve and Affairs)
Assistant Secretary of the Navy (Research, Development and Acquisition)
 Commander, Naval Air Systems Command
 Program Executive Officer for Tactical Aircraft Programs
 Program Manager, EA-6B Improved Capability
Naval Inspector General
Auditor General, Department of the Navy
Commander, Operational Test and Evaluation Force

Department of the Air Force

Auditor General, Department of the Air Force

Other Defense Organization

Director, Defense Contract Management Agency

Non-Defense Federal Organization

Office of Management and Budget

Congressional Committees and Subcommittees, Chairman and Ranking Minority Member

Senate Committee on Appropriations
Senate Subcommittee on Defense, Committee on Appropriations
Senate Committee on Armed Services
Senate Committee on Governmental Affairs
House Committee on Appropriations
House Subcommittee on Defense, Committee on Appropriations
House Committee on Armed Services
House Committee on Government Reform
House Subcommittee on Government Efficiency and Financial Management, Committee on Government Reform
House Subcommittee on National Security, Emerging Threats, and International Relations, Committee on Government Reform
House Subcommittee on Technology, Information Policy, Intergovernmental Relations, and the Census, Committee on Government Reform

Department of the Navy Comments



DEPARTMENT OF THE NAVY
OFFICE OF THE ASSISTANT SECRETARY
RESEARCH, DEVELOPMENT AND ACQUISITION
1000 NAVY PENTAGON
WASHINGTON DC 20350-1000

AUG 05 2004

MEMORANDUM FOR DEPARTMENT OF DEFENSE ASSISTANT INSPECTOR
GENERAL FOR AUDITING

SUBJECT: DODIG DRAFT REPORT: ACQUISITION OF THE EA-6B IMPROVED
CAPABILITY III PROGRAM (PROJECT NO. D2003AE-0190)

We have reviewed your draft report dated June 18, 2004. Our detailed comments on the findings and the recommendations are attached.

A handwritten signature in black ink, reading "Mr Balderson".

William M. Balderson
Deputy Assistant Secretary of the Navy
(Air Programs)

Attachment:
As stated

cc:
NAVIG-4
NAVAIR (09G)

**DEPARTMENT OF THE NAVY RESPONSE TO
DODIG DRAFT REPORT ON ACQUISITION OF THE
EA-6B IMPROVED CAPABILITY (ICAP) III PROGRAM
(PROJECT NO. D2003AE-0190)**

INTRODUCTION

On 18 June 2004 the Department of Defense Inspector General (DOD IG) for Auditing provided a draft report for review and comment. The report is the culmination of an audit of the EA-6B ICAP III Program. The audit commenced in September 2003 and ended in June 2004.

The DOD IG Program Director's decision to support a review of the proposed draft report prior to release was beneficial to all concerned. The "read-ahead" reduced confusion and provided both parties the time to clarify their positions and assumptions. This had the positive effect of saving time and consequently valuable program assets for both parties.

DOD IG AND PMA-234 COOPERATION

In a Memorandum dated 18 August 2003, the Acquisition Management Directorate initiated the audit of the Acquisition of the EA-6B ICAP III Program. A follow-up memo dated 25 August 2003 from the Audit Team Leader, requested an advanced delivery of ICAP III Program documentation. From that point in the audit to the final days just before the receipt of the draft audit report PMA-234 through the ICAP III Integrated Program Team (IPT) has fully cooperated with the audit team in support of every NAVAIR meeting and field site visit.

Enclosure (1), DOD IG Audit Documentation Delivery Index lists the documentation and information delivered to the audit team over the course of the audit. The list is subdivided beginning with the initial document request issued by the 25 August memo out to the final site visit to PMA-234 on 3 May 2004. The list also indicated the mode of delivery, the date provided, the document security classification, and miscellaneous notes and reference information.

Enclosure (2), EA-6B ICAP III DOD IG Audit Matrix is a cross reference to the items in the DOD IG Audit Documentation Index to the Critical Program Management Elements (CPMEs) used as a basis for the audit as indicated in the, "Presentation to PMA-234 EA-6B Program Office", presented by the DOD IG Team Leader to PMA-234 on 8 September, 2003. Each document provided to the audit team was mapped to the CPMEs to illustrate the depth and coverage of information provided in support of the audit teams own evaluation criteria.

RESPONSE FORMAT

The NAVAIR IG Audit Liaison Officer provided the format guidance used to respond to the audit findings and recommendations. The alpha/numeric conventions used in each finding and recommendation was followed in the responses for continuity.

In each case the wording in the finding or recommendation is repeated. The comments to a finding begin with either: CONCUR, PARTIALLY CONCUR, OR DO NOT CONCUR WITH THIS FINDING. Comments to a recommendation begin with either: CONCUR, PARTIALLY CONCUR OR DO NOT CONCUR WITH THE RECOMMENDATION.

PMA-234 EA-6B ICAP III TEAM RESPONSES TO DOD IG AUDIT FINDINGS AND RECOMMENDATIONS

Finding A: Readiness for Low-Rate Initial Production

The Program Manager provided the Assistant Secretary of the Navy (Research, Development, and Acquisition) with incomplete information on the operational assessment of the ICAP III Program that the Commander, Operational Test and Evaluation Force (COMOPTEVFOR) prepared in support on the low-rate initial production decision. Specifically, the Program manager did not provide the details for the following operational test results:

- The high false emitter display ratio³ substantially reduced overall mission effectiveness by overloading the aircrew's displays with erroneous symbols and caused significant problems in the proper use of reactive assignments.
- The lack of a fully functional keypad prevented the test aircrew from using the ICAP III weapon system effectively.
- The Tactical EA-6B Mission Planning System erroneously displayed data (lost or frozen data) because of frequent system lockups, which presented major obstacles to effective preflight mission planning and post-flight analysis.
- Fifty additional performance deficiencies for the ICAP III systems required correction because they detracted from the overall EA-6B efficiency or operator situational awareness.

The Program Manager did not provide the COMOPTEVFOR (COTF) operational assessment to the Assistant Secretary of the Navy (Research, Development, and Acquisition) as required for Navy program milestone decision meetings because the Program Manager limited his presentation of the COTF test results to their conclusion that the ICAP III was potentially operationally effective and suitable, the ratings for the critical operational issues, and a listing of the 50 additional deficiencies. The briefing did not describe how the deficiencies affected operational effectiveness and suitability. As a result, the Assistant Secretary of the Navy (Research, Development, and Acquisition) approved the Program Manager's request in June 2003 to procure 10 ICAP III systems for low-rate initial production and the Navy increased the risk that it will incur costly retrofit expenses to correct the design deficiencies for those systems at the completion of the dedicated operational test and evaluation phase.

DO NOT CONCUR WITH THE FINDING

1. COMOPTEVFOR (COTF) is the only releasing authority for the OA Report and any operational test report. The OA Report was delivered to ASN(RD&A) per receipt on record at COTF, Enclosure (3). The report was received by the ASN(RDA)-staff in June 2003. This fact was provided to the auditors during their visit to the PMA on 24-25 March 2004.
2. The Program Manager for ICAP III did present information at the LRIP decision that addressed details for the operational test results, including information regarding the nature of the deficiencies that affected the effectivity and suitability findings from COTF. A summary of the OA Report was provided on page 7 of the NPDM. Additionally back-up material was provided that discussed the 4 operational mission failures experienced during OA and the corrective action plans with current status (pages 31-35). Backup material was also provided that not only identified the high and moderate effectivity and suitability risks, but also discussed status of correction and identified all minor COIs (pages 38-42). These back-up charts were discussed with ASN(RDA) during the NPDM. A copy of the NPDM briefing was provided to the audit team on two separate occasions, 10 September 2003 and again on 14 October 2003.

3. For informational purposes only, detailed correction status is provided for the 4 items specifically called out by DODIG.
- "The high false emitter display ratio³ substantially reduced overall mission effectiveness by overloading the aircrew's displays with erroneous symbols and caused significant problems in the proper use of reactive assignments."
 - As discussed in the NPDM briefing, a number of corrections were implemented in the May and June 2003 software builds that addressed this issue. Corrections made included an increase to the number of cued receiver pulses required for a new active emitter file, the modification of false report suppression logic to adjust RF match tolerances, correction of the logic for merging and purging emitter reports, a reduction of the age-out times for emitters to limit the creation of false alarms from residue, and the addition of switchable attenuation to reduce spurs. Additionally, the ICAP III Program had adopted an evolutionary development approach to address the reactive assignment (RA) capability. Based on test data, RA improvements were achieved via ALQ-218 software performance growth and an updated mission database to reflect newly developed and/or refined RA designated emitters, RA strategies, and jamming techniques. Re-test of these improvements were planned for re-test during a return visit to Western Test Range in August 2003. These corrections were being implemented in parallel with OA and the generation of the OA Report, and therefore were addressed at the NPDM as believed to have been greatly improved.
 - "The lack of a fully functional keypad prevented the test aircrew from using the ICAP III weapon system effectively."
 - A Controls and Displays Working Group (CDWG) had been working in parallel with OA to address many concerns with the user interface. This CDWG concluded in February 2003 with recommended software changes for improved keyboard interface, as well as modifications to the keyboard layout to place the most often used keys in the most easily accessible place. The NPDM brief clearly indicated significant keypad improvements were made in May 2003. Some of the specific changes included grounding improvements between the keypad and displays to eliminate display lock-ups due to use of the keypad, corrections of PS/2 interface codes generated by the keypad, display software improvements to eliminate the cursor location dependence of keypad operation, improved cursor slew speed of the thumb control, and user interface improvements to link up/down arrows and PGUP/PGDN keys to display control. These corrections were successfully tested in DT following the conclusion of OA.
 - "The Tactical EA-6B Mission Planning System erroneously displayed data (lost or frozen data) because of frequent system lockups, which presented major obstacles to effective preflight mission planning and post-flight analysis."
 - At the NPDM brief, the Tactical EA-6B Mission Planning System (TEAMS) was presented as an interim solution that was being utilized to test ICAP III in absence of the Joint Mission Planning System (JMPS) Framework and EA-6B UPC. Based on the OA Report, the identified path forward was to incorporate only the most critical mission planning improvements to support OPEVAL, as the JMPS Framework was anticipated to be available to test in Follow-on Test and Evaluation (FOT&E) prior to deployment. Note the mission planner is a separate support system, and not integrated as part of the ICAP III aircraft system. As briefed at the NPDM, additional planning was necessary to further define mission planner functionality to be included in OPEVAL. Additionally, at

the NPDM brief, Mission Planning was specifically called out as a risk item being tracked.

- "Fifty additional performance deficiencies for the ICAP III systems required correction because they detracted from the overall EA-6B efficiency or operator situational awareness."
 - As described and listed in the NPDM briefing, all deficiencies were summarized for ASN(RDA). Of the 50 non-major risks identified by COTF, 44 were "minor" risk items and the remaining items were labeled as "other". The briefing to ASN(RDA) acknowledged these additional operational concerns. Given the majority of raised concerns were to be addressed via software, the plan presented was to proceed with the hardware procurement and address all significant OA concerns prior to entry into OPEVAL. But as described in the three prior bullets, significant software changes were being developed in parallel to OA and the OA Report and specifically briefed to ASN(RDA).

Recommendation A.1: We recommend that the Assistant Secretary of the Navy (Research, Development, and Acquisition) obtain the Commander, Operational Test and Evaluation Force's operational assessment for the EA-6B Improved Capability III and not approve full-rate production until the Commander, Operational Test and Evaluation Force determines the satisfactory resolution of the 22 critical operational issues.

DO NOT CONCUR WITH THE RECOMMENDATION

1. As stated above, the OA Report was delivered to ASN(RDA) as part of the LRIP NPDM process.
2. As part of the preparation for OPEVAL, the ICAP III program addressed each OA risk item to ensure that improvements, where warranted, were included in the product provided to COTF for OPEVAL testing. Since a determination of mission effective and mission suitable (via the OPEVAL Report) is identified in the Acquisition Decision Memorandum as a Full Rate Production (FRP) criteria, the OA Report findings should be superseded by the OPEVAL Report findings. Therefore, the FRP decision should be based on resolution of any OPEVAL Report major deficiencies, not areas of risk identified in the OA Report.

Recommendation A.2: We recommend that the Program Manager for the EA-6B analyze and identify fixes for the 50 additional deficiencies identified by the Commander, Operational Test and Evaluation Force in the operational assessment to increase the likelihood that the ICAP III will perform satisfactorily before concluding the dedicated operational test and evaluation phase of the acquisition process.

DO NOT CONCUR WITH THE RECOMMENDATION

It is the responsibility of the Program Manager to address both major and minor deficiencies resulting from operational test, but not in the manner prescribed by this recommendation. The fifty areas of risk previously cited in the OA report (many of which had already been addressed) and those deficiencies that could result from the current OPEVAL are managed by an already established process that prioritizes them (e.g. Part 1, Part 2, and Part 3). Based on those priorities, the Program Manager in consultation with numerous stakeholders will prepare resolutions to any identified deficiencies. The resolution can range from immediate action to removing the requirement in a future requirement update.

The Management Control process used by PEO(T) and PMA-234 relies on a comprehensive series of reviews and evaluations by top-level competency managers and stakeholders from the following Government Codes:

- PEO(T) OPS
- N78
- Training PMA 205
- Safety, AIR 4.1.10
- Environmental, AIR 1.1E2
- Test, Air 1.6
- N912
- VX-23
- Engineering, AIR 4.0B
- Software, AIR 4.1.11
- Logistics, AIR 3.0
- OSHA, AIR 09F2
- DOT&E
- COTF/OTC
- Systems Engineering, AIR 4.1
- Avionics, AIR 4.5
- R&M, AIR 4.1.6.1

From the beginning, all deficiencies were presented to the group and actions identified to close them out. Actions taken at one meeting were addressed and in most cases closed or dispositioned by the next review date. The Test and Engineering communities were aware of the status of all deficiencies and monitored progress through the review cycle leading up to the LRIP decision. A list of the reviews used by PEO(T) and PMA-234 to assess program readiness are listed below:

- ICAP III EXCOM, 14 March 2003
- ICAP III Program Summit, 17 April 2003
- Acquisition Coordination Team Meeting #1, March, 2003
- Acquisition Coordination Team Meeting #2, 18 April, 2003
- Acquisition Coordination Team Meeting #3, 23 April, 2003
- ICAP III Follow-up Meeting, 30 April, 2003
- ICAP III Program Status Review, 7 May, 2003
- ICAP III Pre-Acquisition Review Board (ARB), May, 2003
- ICAP III Acquisition Review Board (ARB), 6 June, 2003
- Pre-ICAP III NPDM, 11 June, 2003
- EA-6B ICAP III NPDM, 12 June, 2003

In addition to addressing deficiencies during the LRIP NPDM and OPEVAL preparation process and after further investigations of the risk items, there were some instances where actual system fixes were not required. In these cases a clarification of information and/or improved training was provided at the Operational Test Readiness Review (OTRR). Additionally, COTF identifies and prioritizes deficiencies but funding to fix them is allocated by N78, the resource sponsor.

One example of an area not specifically addressed by a correction is the decision to not modify the anti-collision light design because further research indicated it to be an isolated incident that was deemed addressable by training. A second example worth noting is the program decision, given a cost/benefit tradeoff for an aircraft nearing end of life, to not modify a cockpit control panel fail light label to reflect "DSMU" instead of the legacy "RRS"; again this would be addressed via training.

Finding B: An Interim Authority to Operate Improved Capability III Information Systems

In May 2003, the Designated Approving Authority for the Naval Air Systems Command issued the Program Manager an Interim Authority to Operate (IATO) the ICAP III information system without requiring the Program Manager for the EA-6B aircraft to first complete the verification and validation phases of the Department of Defense Information Technology Security Certification and Accreditation Process (DITSCAP), as required. As a result, the Program Manager began operational testing of a system that may not satisfy system information assurance requirements.

PARTIALLY CONCUR (IN PRINCIPLE) WITH THIS FINDING

The Naval Air Systems Command (NAVAIRSYSCOM) Designated Approving Authority (DAA) and Certification Authority have reviewed the IATO and the process followed in issuing this document by the Information Assurance Program Office (IAPO) and note the following: Although we concur in principle that DITSCAP typically requires the review and issuance of an IATO after completion of the verification and validation phase of a program, we note that specific to the requirements of this program, the originator's interpretation of the DITSCAP does not accurately reflect the practical application of an Information Assurance (IA) Program.

NAVAIRSYSCOM IA Program Office met with the ICAP III Program to address overall IA requirements, to include testing the ICAP III variant on a test platform. Note this platform is not "operational", but is a test platform in a controlled test environment. The IA Program Office, an office independent of PMA-234, assessed the security architecture and posture of the design and determined there was minimal risk of unauthorized disclosure, modification, or availability of National Security Information. The USN and DoD have traditionally used an IATO to grant temporary authority to programs to "operate" systems for the purpose of testing in completion of the verification phase of the DITSCAP. The purpose of the testing is to identify any deficiencies either in functionality or security. The purpose of an IATO is to assess the risks of operating the "system" in order to complete the verification and validation efforts. If an unacceptable level of risk to the protection of National Security Information had been determined during this review process, the NAVAIRSYSCOM Developmental DAA would not have authorized the IATO for the test and evaluation period.

Recommendation B.1: We recommend that the Certification Authority for the EA-6B Improved Capability III Program, Naval Air Systems Command:

- a. Complete all definition, verification, and validation requirements to comply with the DoD Information Technology Security Certification and Accreditation Process.
- b. Document the certification procedures and tests results in the EA-6B Improved Capability III System Security Authorization Agreement.
- c. Use the results from completing the DITSCAP to recommend to the Designated Approving Authority for the EA-6B Improved Capability III whether to continue granting the EA-6B Program Manager an Interim Authority to Operate.

CONCUR WITH THIS RECOMMENDATION

Note that this was and is the plan of the NAVAIRSYSCOM IA Program Office and Program Manager and was briefed as such during the audit.

Recommendation B. 2: We recommend that the Designated Approving Authority for the EA-6B Improved Capability III Program, Naval Air Systems Command base the decision to continue granting the EA-6B Program Manager an Interim Authority to Operate on the recommendation of the Certification Authority for the EA-6B Improved Capability III Program.

CONCUR WITH THIS RECOMMENDATION

Finding C: Use of Failure Data for the Improved Capability III Program Hardware

The subcontractor did not submit, through the prime contractor for the ICAP III Tactical Jamming System Receiver, updated reliability prediction data needed to perform a cost-benefit analysis to determine the best maintenance and logistical support strategy for the receiver. This condition occurred because the Program Manager did not direct the prime contractor to update reliability predictions after analyzing and resolving all hardware failures identified during developmental testing or to retain documentation of corrective actions taken to reduce the frequency of hardware failures. As a result, the Program Manager is not able to accurately predict the expected reliability of the tactical Jamming System Receiver and may incur higher than expected costs to maintain and logistically support the receiver when the ICAP III Program becomes operational.

DO NOT CONCUR WITH THE FINDING

The contractor's Reliability and Maintainability (R&M) program followed during the EMD period formed the basis for follow-on phases of the program and was established with the expressed purpose of identifying failures during the earliest phase in the design and to implement the corrective action at the earliest possible time and at the least cost to the program. Details of the R&M program are in the contractor's Integrated Support Plan. The program includes an R&M Program Plan, allocations, predictions, development testing, FMECA, Damage Modes Analysis, Maintainability Demonstration, Failure Reporting and Corrective Action System (FRACAS) and integration into the LSAR. The Program Manager actively pursued a policy that ensured that the supportability and testability of all ICAP III components would be traceable to Failure Modes and/or Damage Modes as predicted and that every corrective action would be accurately documented with feedback provided back to the design agents.

The data requested by the audit team covered a time period of over two years and would have needed to be formatted into a usable report to be useful to the team. By mutual consent the audit team and the ICAP III IPT decided against producing such a report because it would constitute creating a new document and therefore would be outside the scope of existing program documentation. The ICAP III Reliability Engineer met with the audit team on May 3, 2004 to discuss the methodology used to perform an R&M analysis. During a follow-up meeting with the audit team, the R&M Engineer provided:

- 1). Northrop Grumman FRACAS database examples. Examples were from development testing at each contractor facility.
- 2). Reliability Maintainability Review Board (RMRB) database. This database correlates to the individual FRACAS databases that reside at each contractor facility. The purpose of this database is to provide a repository for all failures experienced in the development life of the program. It provides Relevancy / Non-relevancy definitions, failure analysis and corrective actions.
- 3). RMRB meeting minutes and documentation. RMRB meetings are held quarterly at each contractor facility. The purpose of the RMRB process is to disposition failures (Relevant /

Non-Relevant) in accordance predetermined ground rules (that are in the minutes) and provide failure analysis and corrective actions for all relevant failures.

Recommendation C: We recommend that the Program Manager for the EA-6B Program:

1. Require Northrop Grumman Electronic Systems, Baltimore, Maryland, through the prime contractor, to update the failure report logbook to prioritize open system failures for the Tactical Jamming System Receiver and to cross-reference corrective actions taken to close each failure entry.

DO NOT CONCUR WITH THE RECOMMENDATION

The FRACAS provides the means to document and improve the reliability of the design through failure recording, analysis and, if applicable, corrective design actions. FRACAS reporting does not begin until the system reaches design maturity. In the case of the ICAP III program, the R&M IPT determined that FRACAS reporting would begin when the system was sufficiently mature. This approach is per Attachment 5, paragraph 5.2.8 of the ICAP III contract to implementation of a FRACAS program. Logbook entry anomalies may or may not be in the FRACAS database depending on the phase in development in which the anomalies occurred. Logbooks are an internal Northrop Grumman practice and not a contract requirement. The purpose of the logbook(s) is to record events that occur during each shift. If these entries were relevant to a failure of the system under test and occurred after design maturity had been achieved by mutual IPT agreement, those entries would be found in the FRACAS database. Otherwise they are intentionally outside of the FRACAS process and more accurately are described as development notes.

2. Obtain from Northrop Grumman Electronic Systems, Baltimore, Maryland, through the prime contractor, an updated failure modes and effects and criticality analysis document that includes an analysis of corrective actions taken to resolve system failures that occurred after June 2001.

DO NOT CONCUR WITH THE RECOMMENDATION

Both the Reliability Prediction and the FMECA are design tools used to assess the proposed design for compliance with design/program requirements. They are also used for the initial assessment of supportability and testability. The predictions are design assessment tools used in the absence of actual failure data. Once they are complete and the design is solidified there is little payoff in updating them unless major design changes occur. They should not be updated to reflect actual failure data since actuals are better than predictions and, once actuals are obtained, the predictions are obsolete. There would be no value added in requiring the contractor to update the FMECA at this stage of the Program, given the small sample rate experienced at that time.

3. Perform a cost-benefit analysis after implementing Recommendations C.1 and C.2 to determine the most cost-effective acquisition support strategy for the Tactical Jamming System Receiver.

DO NOT CONCUR WITH THE RECOMMENDATION

The Business Case Analysis (BCA) is performed by NAVICP, which is an independent program office not under the control of the ICAP III IPT or the EA-6B Program Manager. The ICAP III ILS IPT has provided NAVICP with the latest Reliability predictions for use in the BCA and is in the process of revising those predictions based on experience to date in TECHEVAL and OPEVAL. The operating hours sample size is not yet statistically significant enough to be used in lieu of the predictions. The predictions can only be tempered using engineering judgment based on the few failures incurred to date. The predicted reliability being used for forecasting support

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requirements spares requirements, Level Of Repair Analysis (LORA), and numerous other support related analysis -- including the BCA -- are de-rated 8 to 1 (multiplied by 12.5%) from the predicted values. This derate factor is based in NAVAIR R&M competency actual experience with similar systems over its many years of evaluating design of Navy Weapon systems.

DON Comments to Appendix A: Scope and Methodology, Management Control Program Review:

Naval Inspector General memorandum, dated 18 June, 2004 accompanied the delivery of the Report on Acquisition of the EA-6B Improved Capability III Program (Project No. D2003AE-0190). In paragraph four, the memo states, "Management should also comment on the material management control weaknesses discussed in Appendix A". In a separate correspondence, the NAVAIR IG Audit Liaison Officer directed PMA-234 to respond to the management control issues raised in Appendix A.

The following is PMA-234's response to the Management Control Program Review section in Appendix A in particular the subsection titled, "Adequacy of Management Controls."

Adequacy of Management Controls (Appendix A, page 21)

We identified management control weaknesses, as defined by DoD Instruction 5010.40, relating to reporting of test and evaluation results, information assurance, and system reliability failure reviews. Specifically, the Program Manager did not provide the COTF operational assessment to the milestone decision authority as required for the navy program decision meeting or fully verify that analysis and corrective action had been performed on hardware failures, and the Designated Approving Authority for the Naval Air System Command did not follow procedures for issuing the Program Manager an IATO. Recommendations A.1, A.2, B.1, B.2, C.1, and C.2, if implemented, will improve the overall management of the ICAP III Program. A copy of this report will be provided to the senior official responsible for management controls in the Department of the Navy.

DO NOT CONCUR (underlined portion)

1. The Program Manager did not provide the COTF operational assessment to the milestone decision authority as required for the navy program decision meeting.

Response: ASN(RDA) records show receipt of the COTF assessment report, see Enclosure (3). Furthermore, all of the issues and concerns highlighted in the assessment were covered during the reviews leading up to the meeting with ASN(RDA). The Program Manager closely monitored TECHEVAL progress and instructed the ICAP III T&E team to conduct daily phone comms to monitor progress and corrective actions. TECHEVAL issues were a topic of discussion during every ICAP III briefing leading up to and including the NPDM. COTF personnel were in attendance at every review to discuss their progress, deficiencies, and actions taken to date. Action items generated at one review were expected to be corrected or dispositioned by the next review date where they would be reviewed by the attendees. Any weaknesses identified during the reviews were identified and assigned as actions for the follow-on review. Each review was attended by representatives from the following competencies and Government agencies to ensure that the program did not go forward unless it met its cost, schedule, and performance objectives:

- | | | |
|----------------------------|------------------------|--------------------------------|
| • PEO(T) OPS | • N912 | • DOT&E |
| • N78 | • VX-23 | • COTF OTC |
| • Training PMA 205 | • Engineering AIR 4.0B | • Systems Engineering, AIR 4.1 |
| • Safety, AIR 4.1.10 | • Software, AIR 4.1.11 | • Avionics, AIR 4.5 |
| • Environmental, AIR 1.1E2 | • Logistics, AIR 3.0 | • R&M, AIR 4.1.6.1 |

- Test, Air 1.6
- OSHA, AIR 09F2

PEO(T) records indicate the following Management Control (MC) reviews took place at which time competency managers, PEO(T) staff, and PMA-234 personnel conducted detailed discussions on the information that would eventually be documented in the COMOPTEVFOR Report. The MC reviews include:

- ICAP III EXCOM, 14 March 2003
- ICAP III Program Summit, 17 April 2003
- Acquisition Coordination Team Meeting #1, March, 2003
- Acquisition Coordination Team Meeting #2, 18 April, 2003
- Acquisition Coordination Team Meeting #3, 23 April, 2003
- ICAP III Follow-up Meeting, 30 April, 2003
- ICAP III Program Status Review, 7 May, 2003
- ICAP III Pre-Acquisition Review Board (ARB), May, 2003
- ICAP III Acquisition Review Board (ARB), 6 June, 2003
- Pre-ICAP III NPDM, 11 June, 2003
- EA-6B ICAP III NPDM, 12 June, 2003

2. The Program Manager did not fully verify that analysis and corrective action had been performed on hardware failures.

Response: The Program Manager contracted for and instituted a closed loop failure/trouble corrective action process that ensured that all data collected during the T&E process would be considered in the corrective action process and would be fed into any redesign effort.

The true test of whether the Program Manager's policy was effective is revealed in the Hardware maturity status reported out during the MC reviews and was a key Assessable Unit (RDT&E Performance Evaluation) tracked by PEO(T). The results of that assessment indicated a hardware maturity that met or exceeded the requirements:

With 190.7 aircraft flight hours and over 3000 operating hours on equipment since the start of the test program the system experienced a MTTR of 46 minutes with a requirement of <90 minutes and a MTBF of 209.7 hrs with a requirement of 209 hrs. All deficiencies and problem reports were dispositioned at the time the system entered OPEVAL. This is primarily due to the comprehensive corrective action plan implemented by the Program Manager at the start of the program.

3. The Designated Approval Authority (DAA) for the Naval Air Systems Command did not follow procedures for issuing the Program Manager an IATO.

Response: The DAA followed the accurate interpretation of the DITSCAP program. A thorough analysis of the system architecture was conducted and follow-up discussions with the ICAP III Technical team resulted in the assessment that the ICAP III was at low risk of breaching Information Assurance (IA) criteria as a platform IT interconnection system.

Furthermore, ICAP III achieved Phase 1 DITSCAP and received an IATO containing requirements that are being accomplished at this time. The DAA imposed the requirements on ICAP III in order to, "proceed towards full accreditation of the ICAP III and subordinate efforts.

The ICAP III Program Team has ongoing discussions with the DAA and is in the process of completing a system level SSAA for his evaluation.

Team Members

The Office of the Deputy Inspector General for Auditing of the Department of Defense, Acquisition Management prepared this report. Personnel of the Office of the Inspector General of the Department of Defense who contributed to the report are listed below.

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